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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/849,187	05/04/2001	Ramesh Nagarajan	13-10	9273

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PATTERSON & SHERIDAN, LLP/  
LUCENT TECHNOLOGIES, INC  
595 SHREWSBURY AVENUE  
SHREWSBURY, NJ 07702

EXAMINER
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WILSON, ROBERT W

ART UNIT	PAPER NUMBER
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2616

DATE MAILED: 05/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/849,187

Applicant(s)

NAGARAJAN ET AL.

Examiner

Robert W. Wilson

Art Unit

2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on Dec. 20 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-6,8-10,14,15 and 17-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-6,8-10,14,15 and 17-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3, 6, 8, & 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang (U.S. Patent No.: 6,724,722).

Referring to claim 1, Wang teaches: C which is a node which grooms signals from A or client into a high capacity signal per Fig 1 or per col. 5 lines 33-56. C has an interface which is coupled via link CD or high capacity trunk and then connected through D to another high capacity trunk DF to F which is an edge node or type 1 node per Fig 1 or per col. 5 lines 33-56. C has another interface which is directly coupled to a non-edge node E or type 2 node via link CE or second high capacity trunk. The traffic is split over the two routes which the examiner interprets as wherein only a portion of those low capacity client signals destined for the F or type 1 node are groomed into the high capacity trunk to E or type 2 node per Fig 1 or per col. 5 lines 33-56.

Wang does not expressly call for: first high capacity trunk CF (represent by links CDF) directly coupling to F or type 1 node with C.

Wang teaches: an extra node D which is between nodes C and node F (type 1 node) per Fig 1. The examiner has interpreted nodes D and E as an repeater nodes or type 2 nodes.

It would have been obvious to one of ordinary skill in the art at the time of the invention to delete node D (repeater node) between nodes C & F because the distance between C & F is short enough that a repeater is not required; therefore, C would be directly coupled to F or type 1 node via first high capacity trunk.

Referring to claim 3, Wang teaches the apparatus of claim 1.

Wang does not expressly call for: wherein the type two node is high traffic node.

The applicant broadly claims a "wherein the type 2 node as a high traffic node". It would have been obvious design choice to send more traffic through E or type 2 node because there is more link capacity available or in other words make it a high traffic type 2 node.

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Referring to claim 6, Wang teaches: Node C is an apparatus for selectively grooming signals from A or client per Fig 1 or per col. 5 lines 33-56. C is coupled directly to a non-edge node E or type 2 node via link CE or second high capacity trunk. C is also coupled to link CD or high capacity which is connected to non-edge node D which is connected to DF which is also a high capacity trunk to F (type 1 node) which is an edge node per Fig 1 or per col. 5 lines 33-56. The traffic is split over the two routes which the examiner interprets as only a portion of the client signals destined for the F or type 1 node are groomed into the high capacity trunk to E or type 2 node per Fig 1 or per col. 5 lines 33-56.

Wang does not expressly call for: first high capacity trunk CF (represent by links CDF) directly coupling to F or type 1 node with C.

Wang teaches: an extra node D which is between nodes C and node F (type 1 node) per Fig 1. The examiner has interpreted nodes D and E as an repeater nodes or type 2 nodes.

It would have been obvious to one of ordinary skill in the art at the time of the invention to delete node D (repeater node) between nodes C & F because the distance between C & F is short enough that a repeater is not required; therefore, C would be directly coupled to F or type 1 node via first high capacity trunk.

Referring to claim 8, Wang teaches the apparatus of claim 6.

Wang does not expressly call for: wherein the first node is a low traffic node and the second node is a high traffic node.

The applicant broadly claims a "first node is a low traffic and the 2<sup>nd</sup> node as a high traffic node". It would have been obvious design choice to send more traffic through E or type 2 node because there is more link capacity available or in other words make it a high traffic type 2 node and less traffic to F.

Referring to claim 14, Wang teaches: Node C performs the method per Fig 1 or per col. 5 lines 33-56. Node C receives signals from A or low capacity client signals per Fig 1 or per col. 5 lines 33-56. Node C splits the traffic over the two routes which the examiner interprets as selectively grooming a portion of the received low capacity client signals into a high capacity trunk for transmission to the F or type 1 node and transmitting others of the low capacity client signals over link CE or directly coupled via second high capacity trunk to E (2<sup>nd</sup> type of node) wherein the traffic is split over the two routes which the examiner interprets as others of the low capacity signals transmitted over the other high capacity trunk comprise low capacity client signals destined for the F or type 1 node are groomed into the high capacity trunk to E (type 2 node). The first high capacity trunk goes via links CDF per Fig 1 or per col. 5 lines 33-56.

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Wang does not expressly call for: first high capacity trunk CF (represent by links CDF) directly coupling to F or type 1 node with C.

Wang teaches: an extra node D which is between nodes C and node F (type 1 node) per Fig 1. The examiner has interpreted nodes D and E repeater nodes or type 2 nodes.

It would have been obvious to one of ordinary skill in the art at the time of the invention to delete node D (repeater node) between nodes C & F because the distance between C & F via links CDF is short enough that a repeater is not required; therefore, C would be directly coupled to F or type 1 node via first high capacity trunk.

3. Claims 4, 9, 17, & 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Wang (U.S. Patent No: 6,724,722) in view of the applicant's specification admitted prior art.

Referring to claim 4, Wang teaches the apparatus of claim 1.

Wang does not expressly call for: wherein the type one node is a cable station and the type two node is a central office.

The applicant's specification that a CO can pass traffic and that the CS acts as device in the branch to split traffic out per Pg 3 line 5-Pg 4 line 5.

It would have been obvious to one of ordinary skill in the art at the time of the invention to call F or type 1 node a cable station because it performs receiving split traffic or function of a cable station and the E node or type 1 node pass data through or performs the function of the CO.

Referring to claim 9, Wang teaches the apparatus of claim 6.

Wang does not expressly call for: wherein the type one node is a cable station and the type two node is a central office.

The applicant's specification that a CO can pass traffic and that the CS acts as device in the branch to split traffic out per Pg 3 line 5-Pg 4 line 5.

It would have been obvious to one of ordinary skill in the art at the time of the invention to call F or type 1 node a cable station because it performs receiving split traffic or function of a cable station and the E node or type 1 node pass data through or performs the function of the CO.

Referring to claim 17, Wang teaches the apparatus of claim 14.

Wang does not expressly call for: wherein the type two node is a cable station and the type one node is a central office.

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The applicant's specification wherein the type two node is a cable station and the type one node is a central office per Pg 3 line 5-Pg 4 line 5.

It would have been obvious to one of ordinary skill in the art at the time of the invention wherein the type two node is a cable station and the type one node is a central office because according to applicant it is well known in the art.

Referring to claim 18, Wang teaches the apparatus of claim 14.

Wang does not expressly call for: wherein the second type of node is a low traffic node and the first type of node is a high traffic node.

The applicant's specification teaches wherein the second type of node is a low traffic node and the first type of node is a high traffic node.

It would have been obvious to one of ordinary skill in the art at the time of the invention wherein the second type of node is a low traffic node and the first type of node is a high traffic node because according to applicant it is well known in the art.

4. Claims 5, 10, & 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang (U.S. Patent No: 6,724,722) in view of the Tyrrell (U.S. Patent No.: 5,185,736)

Referring to claim 5, Wang teaches the apparatus of claim 1.

Wang does not expressly call for: wherein the low capacity client signals comprise plesiochronous digital hierarchy signals and the high capacity signal comprise a synchronous transport mode signal

Tyrrell teaches: converting client signals from synchronous to pleischronous digital hierarchy signal and the high capacity signal comprise a synchronous transport mode signal per Fig 7.

It would have been obvious to add the conversion of Tyrrell to the network the apparatus of Wang in order to cost effectively convert the client signals.

Referring to claim 10, Wang teaches the apparatus of claim 6.

Wang does not expressly call for: wherein the low capacity client signals comprise plesiochronous digital hierarchy signals and the high capacity signal comprise a synchronous transport mode signal

Tyrrell teaches: converting client signals from synchronous to pleischronous digital hierarchy signal and the high capacity signal comprise a synchronous transport mode signal per Fig 7.

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It would have been obvious to add the conversion of Tyrrell to the network the apparatus of Wang in order to cost effectively convert the client signals.

Referring to claim 15, Wang teaches the method of claim 14, Wang does not expressly call for wherein the low capacity client signals and the high capacity trunk supports a synchronous transport module signal

Tyrrell teaches: converting client signals from synchronous to pleischronous digital hierarchy signal and the high capacity signal comprise a synchronous transport mode signal per Fig 7.

It would have been obvious to add the conversion of Tyrrell to the network the apparatus of Wang in order to cost effectively convert the client signals.

5. Claims 19 & 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang (U.S. Patent No: 6,724,722) in view of Dravida (U.S. Patent No.: 5,253,248)

Referring to claim 19, Wang teaches the apparatus of claim 1 wherein grooming of the portion of those low capacity client signals destined for F which is a type 1 node is being performed by C which is also a type 1 node and a portion of the traffic is being via a second high capacity trunk which is a type 2 node per Fig 1 or per col. 5 lines 33-56.

Wang does not expressly call for determining the amount of traffic split based upon a threshold.

Dravida teaches: determining the amount of traffic split based upon a threshold per col. 3 lines 10-45.

It would have been obvious to add the thresholding of traffic of Dravida to the apparatus of Wang in order to prevent route oscillations.

Referring to claim 20, the combination of Wang and Dravida teaches: the apparatus of claim 1 and the type one nodes.

The combination does not expressly call for: if said amount of traffic between said type one node and said another type one node exceeds said threshold provisioning at least one additional trunk between said another type one node and said type one node.

Dravida teaches: adding an additional route when the congestion exceeds a threshold which the examiner interprets provisioning at least one additional trunk between said another type one node and said type one node per col. 3 lines 10-45.

It would have been obvious to add the thresholding of traffic of Dravida to the apparatus of Wang in order to prevent route oscillations.

### *Claim Objections*

6. Claims 1, 3-6, 8-10, 17, and 19-20 are objected to because of the following informalities:

Referring to claims 1 & 6, the examiner objects to the fact that there are two high capacity trunks in the claim and they are both referred to as high capacity trunks and they are different high capacity trunks. The examiner suggests amending the claim 1 to "A node for grooming low capacity client signals into a high capacity signal comprising: an interface to a 1<sup>st</sup> high capacity trunk for directly coupling to a type one node and a second interface to a 2<sup>nd</sup> high capacity trunk for directly coupling to a type two node; wherein only a portion of those low capacity client signals destined for the type one node are groomed into the high capacity trunk to the type two node. The examiner suggests amending claim 6 to "An apparatus for performing selective grooming of client signals, the apparatus comprising: a node coupled (a) directly to a first node via a 1<sup>st</sup> high capacity trunk, and (b) to second node via a 2<sup>nd</sup> high capacity trunk such that only a portion of the client signals destined for the first node are groomed into the 2<sup>nd</sup> high capacity trunk to the second node

Referring to claims 4, 9, & 17, the examiner objects to the usage of cable station in the claims because the applicant has admitted in the arguments dated 2/20/05 in response to the claim objections that the cable station shown in Figs 1-3 and Figs 4, 5, & 7 have different capabilities. How does not determine the metes and bounds of claims 4, 9, & 17 when cable station in these claims has different meanings. The examiner recommends that the applicant amend the claims to designate which cable station the claim is talking about.

Referring to claims 4, 9, & 17, the examiner believes that the applicant reference to the cable station is repugnant to the art and therefore objects to this claimed limitations. In the applicant specification that is admitted prior art the applicant defines a cable station as associated with a branch unit which has the ability to simply switch Fibers within a cable bundle the examiner per Pg 3 line 5 through Pg 4 line 18. In Figures 7-8 of the specification the applicant defines the cable station as having capabilities of an add drop multiplexer can split E1s between central offices. The applicant has defined two versions of cable station. It is the examiner's opinion upon searching the prior art that the admitted prior art is consistent with prior art teachings for a cable station. In other words the prior art teaches that a cable station is a simple switching box and the applicant appears to be using cable station as if it is a location for storing a sophisticated add drop multiplexer switch which is inconsistent with prior art teachings for a cable station.. The examiner suggests that the applicant either delete the claims or rename the new cable station something else and amend the specification according to the new name without adding new matter. Appropriate correction is required.

***Response to Amendment***

7. Applicant's arguments filed 12/20/05 have been fully considered but they are not persuasive.

The examiner respectively disagrees with the applicant argument that the reference Wang fails to teach or suggest an interface to a first high capacity trunk for directly coupling to a type one node and an interface to a second high capacity trunk for directly coupling to a type two node wherein only a portion of those low capacity client signals destined for the type one node are groomed into the second high capacity trunk to the type two node

Wang teaches: C which is a node which grooms signals from A or client into a high capacity signal per Fig 1 or per col. 5 lines 33-56. C has an interface which is coupled via link CD or high capacity trunk and then connected through D to another high capacity trunk DF to F which is an edge node or type 1 node per Fig 1 or per col. 5 lines 33-56. C has another interface which is directly coupled to a non-edge node E or type 2 node via link CE or second high capacity trunk. The traffic is split over the two routes which the examiner interprets as wherein only a portion of those low capacity client signals destined for the F or type 1 node are groomed into the high capacity trunk to E or type 2 node per Fig 1 or per col. 5 lines 33-56.

Wang does not expressly call for: first high capacity trunk CF (represent by links CDF) directly coupling to F or type 1 node with C.

Wang teaches: an extra node D which is between nodes C and node F (type 1 node) per Fig 1. The examiner has interpreted nodes D and E as an repeater nodes or type 2 nodes.

It would have been obvious to one of ordinary skill in the art at the time of the invention to delete node D (repeater node) between nodes C & F because the distance between C & F is short enough that a repeater is not required; therefore, C would be directly coupled to F or type 1 node via first high capacity trunk.

The examiner finds the applicant argument relative to the examiner's objection to usage of cable station in claims 4, 9, & 17 repugnant to the art unpersuasive. The applicant has admitted on the record that Figures 1-3 define one version of cable station and that Figures 4, 5, & 7 define a different version of cable station. The first version of cable station is the prior art version of cable station. Figures 4, 5, & 7 depict an improved version of a cable station. The applicant is entitled to be their own lexicographer. In this instance the examiner believes that the objection of repugnant in the art is reasonable and just because the applicant has called an apparatus a cable station when it is totally different functional capability than what is known in the art and by stating that one group of figures shows one version of cable station and another group of figures shows different version of cable station does not overcome an objection of repugnant in the art.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

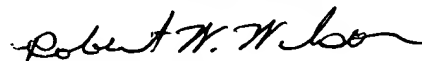
### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert W. Wilson whose telephone number is 571/272-3075. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau T. Nguyen can be reached on 571/272-3126. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Robert W Wilson  
Examiner  
Art Unit 2661

RWW  
1/27/06